



Managed Global Network + Service Level Agreement

Part IV: Managed Global Network Service Level Agreement.

1. **Overview.** Verizon offers the Managed Global Network SLAs described herein only to Managed Global Network customers whose Service Commitment is not less than one year. The SLA applies from the Service Activation Date for Managed Global Network through the duration of the Service Commitment. Upon Customer’s request, Verizon will review any SLA non-compliance and make specified financial compensation (“Service Credits”) if applicable. The SLAs are:

- Network Availability
- Time to Repair
- Customer Due Date
- Packet Transit Delay
- Packet Delivery Ratio
- Jitter
- Proactive Outage Notification
- Managed LAN Network Availability (for Sites with optional Managed LAN Service)
- Managed LAN Time to Repair (for Sites with optional Managed LAN Service)

2. **Dependencies.** The SLA type depends on the form of connectivity between Customer and the Verizon network and the geographic location of Managed Global Network.

2.1 **Geographic Location and DSL.** Because service levels available from Local Access providers differ between countries, SLAs are divided into geographic regions. The location and access method of a Customer Site will determine the applicable service levels.

- U.S. Region – 48 contiguous United States
- Global Tier A – Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Singapore, South Korea, Spain, Sweden, Switzerland, United Kingdom including SDSL and HDSL services delivered in Belgium, France, Germany and Netherlands.
- Global Tier B – Argentina, Bulgaria, Brazil, Chile, China, Colombia, Czech Republic, Estonia, Greece, Hungary, Indonesia, Latvia, Lithuania, Malaysia, Mexico, New Zealand, Panama, Peru, Philippines, Poland, Portugal, Slovakia, Slovenia Taiwan, Thailand, Turkey, United Arab Emirates (“UAE”), Venezuela, Brazil MVIC (via Embratel), and Mexico MVIC (via Avantel)
- Global Tier C – Egypt, South Africa, Canada MVIC (via Telus), China MVIC (via China Telecom or via CNC), Costa Rica MVIC (via Navega), Japan MVIC (via Softbank), Panama MVIC (via Navega), Poland MVIC (via Netia), Saudi Arabia MVIC (via STC).

2.2 **Connectivity to Verizon.** Customer can connect to the Verizon PIP Network via the following means:

- On-Net Access – means Local Access is furnished wholly via facilities owned or operated by Verizon or a Verizon Affiliate. If a Customer Site is collocated with Verizon the Customer is considered to have On-Net access for Managed Global Network to that site.
- Off-Net Access – means Local Access is not wholly furnished via facilities owned or operated by Verizon or a Verizon Affiliate but ordered by Verizon or a Verizon Affiliate from a third party such as the local telecommunications provider.
- Customer Provided Local Access – means Local Access is ordered by the Customer from a third party such as the local telecommunications provider. This Access option is only available with a Secure Gateway Retail & Remote Office Site (“SG RRO Site”) and such sites are excluded from this Service Level Agreement.

2.3 Service Level Commitments Table.

Service Level Commitments	U.S.	Global Tier A	Global Tier B	Global Tier C	DSL
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Service Level Commitments	U.S.	Global Tier A	Global Tier B	Global Tier C	DSL
Network Availability Managed Global Network (Dual Routers and Dual Circuits) Operational Performance Level: Platinum and Gold	100%	100%	100%	100%	N/A
Network Availability Managed Global Network (with Back-Up) Operational Performance Level: Gold, Silver and Bronze	99.95%	99.95%	99.95%	99.95%	N/A
Network Availability Managed Global Network (without Back-Up) Operational Performance Level: Gold, Silver and Bronze	99.8%	99.8%	99.8%	99.5% off net 99.8% On-Net	See Appendix A
Network TTR Managed Global Network	3.5 Hours	4 Hours	6 Hours (1)	8 Hours	See Appendix A
Packet Transit Delay ("PTD")	See Clause Titled Packet Transit Delay ("PTD")				
Requested Install Date ("RID") (On-Net Access only)	100% of Managed Global Network Services installed within RID	100% of Managed Global Network Services installed within RID	100% of Managed Global Network Services installed within RID	100% of Managed Global Network Services installed within RID	Not available
Packet Delivery Ratio ("PDR") within Traffic Priority Class	EF* - 99.995% AF - 99.99% BE - 99.5%	EF* - 99.995% AF - 99.99% BE - 99.5%	EF* - 99.995% AF- 99.99% BE- 99.5%	EF* - 99.995% AF - 99.99% BE - 99.5%	Not available
Jitter (EF priority class only)	< 5 ms	< 5 ms	< 5 ms	< 5 ms	Not available
Proactive Outage Notification	Thirty (30) minutes	Thirty (30) minutes	Thirty (30) minutes	Thirty (30) minutes	Thirty (30) minutes
LAN Switch Availability	99.95%	99.95%	99.95%	99.95%	N/A
LAN Switch TTR	3.5 Hours	4 Hours	6 Hours (2)	8 Hours	N/A

- (1) The Network TTR of 6 hours for Bulgaria, Chile, Estonia, Hungary, Indonesia, Latvia, Philippines, Slovakia, Slovenia, Thailand and Turkey is only available in the capital cities of these countries, i.e., Sofia, Santiago, Tallinn, Budapest, Jakarta, Riga, Manila, Bratislava, Ljubljana, Bangkok and Istanbul. The Network TTR for all other locations within these countries is Next Business Day.
- (2) The LAN Switch TTR SLA for Hungary is only available in the capital city of this country, i.e., Budapest. The TTR SLA for all other locations within this country has a TTR objective of 24 hours.

* A PDR SLC is offered for each Verizon PIP traffic priority class. The PDR SLA for AF applies if Customer is using the Verizon PIP Standard offering and if Customer is subscribing to Verizon PIP Enhanced Traffic Management.

The traffic profiles for Verizon traffic priority classes conform to the uses the traffic profiles defined by IETF RFC 2474. The Verizon traffic priority classes are identified as:

Queue	Naming
EF ** (Expedited Forwarding)	Real Time (UDP)
AF4 (Assured Forwarding) AF41, AF42/43	Priority Data (UDP)
AF3 (Assured Forwarding) AF31, AF32/33	Mission Critical Data (TCP)
AF2 (Assured Forwarding) AF21, AF 22/23	Transactional Data (TCP)
AF1 (Assured Forwarding) AF11, AF 12/13	General Data
BE (Best Effort)	General Business

** The EF queue is not designed for packets larger than 300 bytes or bursty traffic.

Note: The PDR SLA for the four different AF classes is the same. However the four classes are distinguishable since each is served by a separate queue at an egress port and is assigned its own portion of the port's bandwidth. Customer classifies and marks traffic to the appropriate CoS (and to the corresponding queue) and regulates the amount of traffic for each class. Depending on Customer traffic patterns, when an egress port is congested, each queue may experience different amount of latency or delays.

3. Standard SLA Parameters. Managed Global Network.

3.1 Network Availability End-to-End.

3.1.1 **Definition.** Network Availability is defined as the total number of minutes in a billing month during which the Managed Global Network is available to transmit and/or receive IP packets between a Customer Site and the Verizon PIP Network, divided by the total number of minutes in a billing month.

3.1.1.1 **Dual Routers and Dual Circuits.** If a Customer Site that has two (2) connected Verizon Managed Devices running hot standby routing protocol ("HSRP") or equivalent protocol each with a separate, diverse circuit, one Managed Device with a primary circuit, and the other Managed Device with a diverse circuit Verizon will provide a higher degree of SLC for Network Availability.

3.1.1.2 **Back-Up.** If Secure Gateway Retail and Remote Office Back-Up is installed for the Managed Global Network, Verizon will provide a higher degree of SLC for Network Availability.

3.1.2 Service Level Commitment.

- For Customer Sites with Dual Routers and Dual Circuits, Verizon's Network Availability SLC for the US Region, Global Tier A and B countries is 100%.
- For Customer Sites with Backup, Verizon's Network Availability SLC for the US Region, Global Tier A and B countries is 99.9%.
- For Customer Sites with without Backup, Verizon's Network Availability SLC for the US Region, Global Tier A and B countries is 99.8%.
- DSL Access is described in Appendix A.
- Network Availability is calculated in relation to Network Outage Faults that result in a total loss of Managed Global Network.
- Measurement is based on the ETMS Trouble Ticket time documentation and does not include time covered by exclusions shown below.
- The calculation of Network Outage time does not include periods of service degradation, such as slow data transmission.
- The Service Credit table is based on minutes of Network Outage time
- The Service Credit will be calculated as a percentage of the MRC for the affected part of the Service and not as a percentage of the MRC for the entire network.
- Network Availability credits can only be claimed if all access to a Customer Site is lost, including any Dual Router and Dual Circuit or Backup options.

- Customers Sites which are connected via DSL as primary and secondary access are not included within the SLC for Dual Routers and Dual Circuits or Backup
- Where BGP is the routing protocol deployed, depending on the Network size it can take up to 3 minutes for new routes to be announced following an outage. In this instance, Network Outage time does not include the time it takes for the new BGP routes to be announced.

3.1.3 **Calculation.** Monthly Network Availability (%) =

$$\left(1 - \left(\frac{\text{Total minutes of Network Outage per month}}{\text{Days in month} \times 24 \text{ hours} \times 60 \text{ minutes}} \right) \right) \times 100$$

3.1.3.1 **Translation of SLC Percents to Available Minutes and Network Outage Minutes for Billing Months of different lengths.**

Number of Days in Billing Month	100 % Availability per Month in Minutes	Network Outage in Minutes for 99.9% SLC	Network Outage in Minutes for 99.8% SLC
31 days	44.640	45	89
30 Days	43.200	43	86
29 Days	41.760	42	84
28 Days	40.320	40	81

3.1.4 **NETWORK AVAILABILITY SERVICE CREDIT SCHEDULE**

Service Credits as % of MRC for affected part of the Service Network Availability									
Minutes From	Minutes To	SLC 100%	SLC 99.9 %	SLC 99.8%	SLC 99.5%	SLC 97.5%	SLC 97.0%	SLC 95.0%	SLC 90%
0	43	5%	0%	0%	0%	0%	0%	0%	0%
44	86	10%	10%	0%	0%	0%	0%	0%	0%
87	120	10%	10%	5%	0%	0%	0%	0%	0%
121	240	15%	15%	5%	0%	0%	0%	0%	0%
241	360	15%	15%	7.5%	5%	0%	0%	0%	0%
361	647	20%	20%	10%	5%	0%	0%	0%	0%
648	720	20%	20%	10%	7.5%	0%	0%	0%	0%
721	1240	20%	20%	10%	10%	5%	0%	0%	0%
1241	2230	20%	20%	10%	10%	5%	5%	0%	0%
2231	4463	20%	20%	10%	10%	5%	5%	5%	0%
>4464		20%	20%	10%	10%	5%	5%	5%	5%

3.2 **Network Time to Repair (“TTR”)**

3.2.1 **Definition.** Time To Repair is the time to restore the Managed Global Network during a Network Outage.

3.2.2 **Service Level Commitment.** The SLC for Network TTR is 3.5 hours for the domestic U.S. locations, 4 hours for Global Tier A locations (excluding DSL Access, that is detailed in Appendix A) and 6 hours for Global Tier B.

- Network TTR Service Credits may be claimed in addition to Network Availability Service Credits for the same outage if both SLC’s have been violated
- A Service Credit for Time to Repair is only payable in relation to Network Outage Faults that result in a total loss of Managed Global Network.
- The Service Credit will be calculated as a percentage of the MRC for the affected part of the Service and not as a percentage of the MRC for the entire network.

3.2.3 **Calculation.** The Customer’s TTR will be based on the Priority 1 Fault time per Customer Site for each outage event. The TTR time starts when a Trouble Ticket is opened by Verizon or the

Customer, and concludes with the restoration of the Service. The TTR SLC includes the Local Access, the PIP infrastructure port, and the Managed Device.

3.2.3.1 **Monthly Time To Repair (Hrs.) =**

Length of Trouble Ticket resolution for Priority 1 Faults per Router per Network Outage

3.2.4 **TIME TO REPAIR SERVICE CREDIT SCHEDULE**

	Service Credits as % of MRC for affected part of the Managed Global Network				
	TTR 3.5h	TTR 4h	TTR 6 h	TTR 8 h	TTR 24 h
3 hours 30 mins - 3 hours, 59 min, 59 sec	2%	0%	0%	0%	0%
4 hours - 5 hours, 59 min, 59 sec	2%	2%	0%	0%	0%
6 hours - 7 hours, 59 min, 59 sec	2%	2%	2%	0%	0%
8 hours - 11 hours, 59 min, 59 sec	2%	2%	2%	2%	0%
12 Hours -23 Hours, 59 min, 59 sec	2%	2%	2%	2%	0%
24 Hours +	2%	2%	2%	2%	2%

3.2.4.1 **Availability and Network TTR Credit Example**

- Customer with Managed Global Network and Secure Gateway Retail & Remote Office Back-up has 2 Network Outages on their port and Local Access on a customer site in Paris, France. (\$1,588 MRC)
Total outage of 630 minutes (or 10.5 hours)
 - First Outage: 347 minutes.
 - Second Outage: 283 minutes
- Calculation for Network Availability
Total Network Outage of 630 minutes on a site with Managed Global Network with SG RRO Back-Up and Off-Net Access in Global Tier A = 20% of MRC for month
- Calculation for Time to Repair
1st outage – 5 hrs. 47 mins = 2% of MRC for month
2nd outage – 4 hrs. 43 mins = 2% of MRC for month
Total credit – 4% of MRC for month
- Service Credit
MRC on Access, PIP Port + Managed WAN = \$1,588
Credit = 24% of MRC (\$1,588)
Total Dollar Value = \$381.12

3.3 **Packet Transit Delay (“PTD”).**

3.3.1 **Definition.** Round trip data packets delay between origination and destination ports.

3.3.2 **Service Level Commitment**

- **PE PTD** is the provider edge PE-to-PE monthly average round trip transit delay in milliseconds between respective Provider Edge device pairs on the Verizon PIP Network.
- The PE PTD SLC is applicable for the following traffic priority classes:
 - Standard PIP Service
 - Enhanced Traffic Management (“ETM”) option
- **PE PTD** SLC performance measurements for international and US locations are stated in the PIP PTD Matrix located in the Verizon Secure Guide portal at: http://www.verizonenterprise.com/us/publications/service_guide/secure/cp_pip_sla_intro_SG.htm
- Add 120ms to Packet Transit Delay SLC when MVIC is utilized in the PIP Network

3.3.3 **Calculation.** PTD is determined by using 64-byte packets for measuring transit delay in milliseconds across the Verizon PIP Network and averaging the results over a thirty day period.

PTD calculation is as follows:

PTD = T2 – T1

Where:

T1 is the time in milliseconds when an IP packet leaves the Ingress Reference Point (i.e., Packet exit event) and T2 is the time in milliseconds when an IP packet arrives back at the Ingress Reference Point (i.e., Packet return event)

3.3.3.1 **PE PTD** is measured between the respective origination and destination infrastructure ports, i.e., between the points where the packet enters and exits Verizon’s PIP Network, regardless of the mode of access to Verizon’s PIP Network. External factors, including, but not limited to, Local Access issues, are excluded from the measurement.

3.3.4 **Credit Structure.**

- If the PTD SLC is not met, it is a Service Issue and is considered a Service Restoration Priority 2.
- If the PTD metric for a pair of Customer Connections or Customer Sites is not being met, Customer may be eligible for a credit.
- To obtain a credit, a Trouble Ticket must be opened with Verizon when a PTD SLC is not being met or if a Service Issue is identified. Verizon will work with Customer to confirm that a PTD issue exists and repair the problem(s), as applicable. Once Verizon confirms that the PTD SLC is not being met, Verizon will have 30 calendar days to repair the Managed Global Network to meet the PTD SLC and close the applicable Trouble Ticket, and in such an event, Customer will not be eligible for a credit. If, after 30 calendar days of opening the Trouble Ticket, the PTD SLC continues to not be met, Customer will qualify for a credit. Customer’s measurement of PTD prior to opening a Trouble Ticket may be considered by Verizon in determining the need to repair the Managed Global Network.

3.3.5 **PTD – SERVICE CREDIT SCHEDULE**

Service Level Commitment	Service Credit as % of MRC for affected part of the Managed Global Network
Packet Transit Delay (“PTD”)	10%

Service Issues occur between pair ports of the PIP Network. Consequently, two Customer connections will be impacted by each Service Issue. For Service Issue SLC credit purposes, the MRC will be defined as the average of the MRC’s for each of the two impacted Customer Connections.

3.3.6 **Exclusions.** In addition to the General Exclusions, PTD SLC measurements do not include the following:

- All Customer data traffic that is marked EF/COS5 by Customer and is not compliant with the subscribed EF/COS5 Real Time CAR or any other data traffic that is not compliant with the applicable subscribed CAR.
- All Customer data traffic that is marked by Customer using IP Precedence/DSCP settings not supported by the Verizon PIP Network.
- PTD SLCs for MVIC locations are based on measurements at the Verizon owned Provider Edge devices and not the MVIC partner location.

3.4 **Requested Install Date (“RID”)**

3.4.1 **Definition.** The Requested Install Date (“RID”) is the date that Verizon commits to deliver the Managed Global Network to the Customer

3.4.2 **Service Level Commitment**

- Verizon will confirm the RID in writing to Customer upon acceptance by Verizon of the Contract.
- Where the Managed Global Network is based upon On-Net Access only, Verizon agrees to commit to deliver the Managed Global Network by the RID.
- Where the Managed Global Network or any part thereof is delivered using third party Local Access, or requires new Verizon direct access, Verizon is unable to make any kind of commitment in respect of the RID provided to Customer.

3.4.3 **Customer Due Date Service Credit.** If Verizon fails to meet the Customer Due Date SLC for Managed Global Network over an existing On-Net Access, the Customer shall receive a Service

Credit equal to the total MRC that would have been payable for the Managed Global Network from the RID until the actual Acceptance Date of the Managed Global Network.

3.4.4 **Calculation.** The applicable Service Credits shall be calculated as follows: MRC divided by the number of days in the month, multiplied by the difference between the RID and the actual Acceptance Date for the Managed Global Network.

3.5 **Packet Delivery Ratio (“PDR”)**

3.5.1 **Definition.** Packet Delivery Ratio is defined as the average ratio of IP packets which are successfully delivered to the total IP packets sent over Verizon’s PIP Core Network in the billing month. PDR is a ratio of successful IP packet receptions to attempted IP packet transmissions

- PDR excludes packets, which are not delivered due in whole or in part to factors unrelated to Verizon’s Private IP Core Network.
- The PDR reports the effectiveness of the Verizon PIP Core Network in transporting an offered load to an access port on a Verizon PIP switch.
- If egress congestions is caused by excess BE or AF traffic, but the EF traffic rates are within the subscription parameter and do not violate the egress port policy, the PDR SLC will still apply for the EF traffic.
- If EF itself exceeds subscription parameters and causes congestion at an egress port, the excess traffic that is dropped will be excluded from the PDR calculations.

3.5.2 **Service Level Commitment.**

- The Service Level Commitment for PDR for domestic U.S., Global Tier A and Global Tier B locations is **99.995%** for the EF class of service, **99.99%** for the AF class of service and **99.5%** for the BE or Default class.
- Customers must open a Priority 2 Trouble Ticket for Service Degradation when a PDR issue first surfaces. Verizon will work with Customer to confirm the network transit times, repair problems and ensure customer’s applications are functioning.
- Customers can measure PDR prior to opening a Trouble Ticket. Verizon may elect to use Customer’s measurements as a benchmark for the repair actions.
- Upon confirmation by Verizon that a specific Managed Global Network does not comply with this SLC for PDR, Verizon has a period of thirty (30) calendar days from such confirmation to address the non-compliance with the SLC and close the applicable Trouble Ticket, without attracting any liability for payment of Service Credits for failure to meet the SLC.
- If the Managed Global Network continues to not meet this SLC after the expiry of such thirty (30) day period, Customer shall qualify for Service Credits as specified below.
- The Service Credit will be calculated as a percentage of the MRC for the affected part of the Managed Global Network and not as a percentage of the MRC for the entire network.

3.5.3 **Calculation.** Packet delivery is calculated as the number of IP packets within a specified traffic priority class that are successfully delivered by the Verizon PIP Core Network divided by the total number of IP packets sent within the specified traffic priority class. This measurement domain is Edge-to-Edge Egress Queue. PDR_c per billing month is calculated as follows:

PDR_c PDR for load consisting of IP packets within the priority class:

$$PDR_c = \frac{\text{Packets Delivered}}{\text{Packets Offered}}$$

3.5.4 **Packet Delivery Ratio Service Credit Schedule**

Service Level Commitment	Service Credit as % of MRC for affected part of the Managed Global Network
Packet Delivery Ratio	10%

3.6 **Jitter.**

3.6.1 **Definition.** Jitter is the PE-to-PE mean deviation of the difference in packet arrival time at the receiver compared to the sender for a pair of packets

- Verizon's SLC for Jitter applies only to the EF priority class
- Jitter is not a defined performance characteristic metric for either the AF or BE / Default priority classes in the Differentiated Services ("Diff Serv") model, therefore there is no Jitter SLC for either of those classes.
- Jitter is measured between the ingress and egress ports on the Verizon network (switch port to switch port).
- The measurements do not include the contribution to jitter due to queuing on the CPE and serialization on access circuits or customer provided CPE.

3.6.2 Service Level Commitment

- The Jitter SLC is maximum delay variance between Verizon PIP PE devices is less than 5 ms.
- Customers must open a Trouble Ticket when a Jitter issue first surfaces. Verizon will work with the customer to confirm jitter performance, repair problems and ensure customer's applications are functioning.
- Customers can measure Jitter prior to opening a Trouble Ticket. Verizon may elect to use the customer's measurements as a benchmark for the repair actions.
- Upon confirmation by Verizon that a specific Managed Global Network does not comply with this SLC, Verizon has a period of thirty (30) calendar days from such confirmation to address the non-compliance with the SLC and close the applicable Trouble Ticket, without attracting any liability for payment of Service Credits for failure to meet the SLC.
- If the Managed Global Network continues to not meet this SLC after the expiry of such thirty (30) day period, Customer shall qualify for Service Credits as specified below.
- The Service Credit will be calculated as a percentage of the MRC for the affected part of the Managed Global Network and not as a percentage of the MRC for the entire network.

3.6.3 **Calculation.** Jitter is calculated by measuring the mean deviation of the difference in packet spacing at the receiver compared to the sender for a pair of packets. Verizon calculates the mean by sampling the network frequently and averaging the results over a thirty-day period.

The calculation for Jitter (J_i) for two consecutive packets i and $i+1$ is as follows:

$$J_i = \Delta T_i - \Delta T_i'$$

where:

- T_i = time 1st byte of packet i is received by the source port (ingress time)
- T_{i+1} = time 1st byte of packet $i+1$ is received by the source port (ingress time)
- T_i' = time 1st byte of packet i is received at the destination port (egress time)
- T_{i+1}' = time 1st byte of packet $i+1$ is received at the destination port (egress time)

and

- ΔT = $T_{i+1} - T_i$ (ΔT is the time interval between packets at ingress)
- $\Delta T'$ = $T_{i+1}' - T_i'$ ($\Delta T'$ is the time interval between packets at egress)

The average jitter is calculated as follows:

$$J = \sum J_i / (N-1)$$

Where:

- N = the number of sample packets over 30 day period

3.6.4 JITTER SERVICE CREDIT SCHEDULE

Service Level Commitment	Service Credit as % of MRC for affected part of the Managed Global Network
Jitter	10%

3.7 **Proactive Outage Notification (“PON”)**

3.7.1 **Definition.** Verizon will proactively monitor all interfaces relating to Verizon provided and managed CPE. A Managed Interface Fault is defined as loss of layer 2 protocol as indicated either by an SNMP Link Down alarm or a missed ICMP poll.

3.7.2 **Service Level Commitment.**

- Verizon will open a Priority 1 Trouble Ticket for Customer within fifteen (15) minutes for any Managed Interface Fault greater than five (5) minutes.
- For at least eighty percent (80%) of such Trouble Tickets in any month, Verizon will notify Customer within thirty (30) minutes of the creation of the Trouble Ticket.
- Verizon will supply Customer with the Trouble Ticket number and an initial status based on preliminary troubleshooting conducted following the Managed Interface Fault.
- A Service Credit for Proactive Outage Notification is payable in relation to Priority 1 Faults only. The Service Credit will be calculated based on the total MRC for all Managed Global Network services experiencing Priority 1 Managed Interface Faults during the billing month for which the SLC has been violated.

3.7.3 **PROACTIVE OUTAGE NOTIFICATION SERVICE CREDIT SCHEDULE**

Service Level Commitment	Service Credit as % of MRC for affected part of the Managed Global Network
Proactive Outage Notification	10%

3.8 **Managed LAN Availability.**

3.8.1 **LAN Switch Availability.** A LAN Switch is available if i) no alarm events have occurred on the Network Operations Center’s (“NOC”) Network Management System, or ii) no Trouble Ticket has been opened by Customer. If multiple LAN Switches are unavailable because of a LAN Switch issue, Verizon will only consider the Outage of the affected LAN Switch in its calculation of the Availability SLA and LAN Switches attached logically or physically to that LAN Switch will not be considered unavailable. LAN Switch availability is based on the total number of minutes in a calendar month during which the LAN Switch is unavailable to exchange data divided by the total number of minutes in that month. LAN Switches are considered available if the LAN Switch is available to pass data whether data is passing through the LAN Switch or not. Availability is based on the total number of minutes per calendar month. Each Trouble Ticket will be evaluated by Verizon for appropriate corrective action and Customer will be informed of the status of each closed ticket even where the LAN Switch is within normal operating parameters.

3.8.2 **Calculation** – Availability is the percentage of time that the LAN Switch is available within a given calendar month. Availability only applies to Hard Outages.

Monthly Managed Site Availability (%) =

$$1 - \left(\frac{\text{Total minutes of Hard Outage per month}}{\# \text{ days in calendar month} \times 24 \text{ hours} \times 60 \text{ minutes}} \right) \times 100\%$$

3.8.3 **Credit Structure and Amounts.** For any month in which Verizon fails to meet the applicable availability standards for a LAN Switch, Customer will be eligible for an SLA credit equal to a percentage of the Managed LAN monthly recurring charges for the affected LAN Switch, as indicated in the following tables. LAN Switch Availability matrix Applies to LAN Switch level performance. This SLA is not available with 3rd Party Provided In-Band access.

Managed Availability %		U.S.	Global Tier A	Global Tier B
From	To			
100%	99.95%	0%	0%	0%
99.94%	99.50%	15%	10%	10%

99.49%	99.40%	25%	20%	20%
99.39%	99.00%	35%	30%	30%
98.99%	98.00%	45%	40%	35%
97.99%	96.70%	50%	50%	40%
Less than 96.7%		100.0%	100.0%	100.0%

3.8.4 **Exclusions.** In addition to the general exclusions, the following exclusions apply to the Availability SLA:

- 3.8.4.1 LAN Switches are not considered unavailable during periods of Outage resulting in whole or in part from Managed LAN degradation, such as slow data transmission.
- 3.8.4.2 LAN Switches are not considered unavailable during interruptions not reported by Customer, or for which no Trouble Ticket was opened.
- 3.8.4.3 The Availability SLA does not apply to LAN Switches installed for less than one full calendar month.

3.9 **Managed LAN Time to Repair**

- 3.9.1 **Time to Repair (“TTR”).** TTR is the time to resolve an Outage Trouble Ticket for a LAN Switch under management.
- 3.9.2 **Calculation.** The Customer’s TTR is based on the Outage time per LAN Switch for each Outage event. The TTR SLA is 3.5 hours for the domestic U.S. locations, 4 hours for Global Tier A locations and 6 hours for Global Tier B locations. The TTR time starts when a Trouble Ticket is opened by Verizon or the Customer after an Outage and concludes with the restoration of LAN Switch and the LAN interface.

LAN Switch Time To Repair (Hrs.) =
Length of Trouble Ticket resolution per LAN Switch per Outage

3.9.3 **Credit Structure and Amounts.** Customers will be credited for Managed LAN monthly recurring charges for the affected LAN Switch as shown below. Time to Repair with Verizon Data Maintenance – Network (applies to each individual LAN Switch at a Site).

Time to Repair Verizon Data Maintenance – Network					
Outage Repair Time (Per incident)		U.S.	Global Tier A	Global Tier B	3rd Party Provided In- Band Access
3:30:00	3:59:59	5%	0%	0%	0%
4:00:00	3:59:59	5%	5%	0%	0%
6 Hours Plus		5%	5%	5%	5%

4. **How the SLA Works**

- 4.1 **Service Credit Claim Process.** When Customer experiences a Fault to which an SLC relates, Customer must:
 - 4.1.1 Notify the appropriate Verizon Help Desk (or Customer Service Center) and open a Trouble Ticket within 72 hours. Verizon may also open a Trouble Ticket on Customer’s behalf as part of the service management as described in the Service Terms. In either case, a Trouble Ticket must have been opened to qualify for the Service Credits issued for failure to meet an SLC.
 - 4.1.2 Make a claim in writing within 15 days of the end of the then current billing month. Verizon will process your claim and, if warranted, provide compensation in the form of a Service Credit within 90 days. The SLA claim process is further detailed below.
- 4.2 **Service Credit Calculation and Process.**
 - 4.2.1 **Service Credit Calculation**

- The Service Credit structure for non-compliance with any SLC is set out above and is based upon monthly billing calculations.
- For any billing month in which Verizon fails to meet an SLC, the applicable Service Credit shall be applied as a percent of the net MRC relating to the Managed Global Network to which the applicable SLC failure relates.
- Customer may claim Service Credits for Network Availability and TTR for the same Managed Global Network in a given month, subject to the terms of this SLA.
- Customer cannot claim Service Credits for both a Network Availability/TTR and a failure to meet the RTD SLC in respect of the same event or same Managed Global Network within a given billing month.

NETWORK OUTAGE EXAMPLE:

Customer had two Network Outages on a US site with Back-Up in the same month, for total monthly downtime equal to 390 minutes (8.5 hrs).

TTR breakdown was as follows:

TTR tkt 1 = 3.7 hrs
TTR tkt 2 = 4.8 hrs

Customer in this case would be entitled to the following percentage pay out on its affected Managed Global Network service.

20% (credit for US site Network Availability with Back-Up SLC) + 4% (credit for US site 2TTR SLC) = 24% total pay out.

- 4.3 **How to Claim a Credit.** In order to receive a Service Credit on an SLC, Customer must do the following:
- 4.3.1 Report the Fault and have an opened Trouble Ticket within 72 hours of the occurrence.
- 4.3.2 Make a request in writing for a Service Credit from Verizon within 15 days of the end of the relevant billing month.
- 4.3.3 Document the following information when requesting the Service Credit:
- 4.3.3.1 Trouble Ticket number;
- 4.3.3.2 Time the Trouble Ticket was opened and closed;
- 4.3.3.3 IDs for each of the ports, CARs and local access circuits that were affected by the Fault to which the SLC relates.
- 4.4 All applicable Service Credits will be provided to Customer at the Billing Account Number (“BAN”) level in one lump sum basis, not by reference to each individual circuit or all circuits under multiple BANs. The appropriate amount will be credited to the Customer’s account, appearing as a line item on a bill delivered within 90 calendar days following Verizon’s confirmation of non-compliance with the SLC.

5. SLA Terms and Conditions

5.1 Service Credit Liability and Other Remedies

- Credits are not cumulative month to month.
- Verizon’s liability to pay Service Credits in respect of failure to meet the same SLC for a given Managed Global Network is limited to 3 consecutive months.
- After 3 consecutive months of failing to meet the SLC, Customer may elect to terminate affected Managed Global Network service upon notice to Verizon without liability, except for payment of Charges for Managed Global Network service provided prior to termination.
- Verizon is not obliged to issue Service Credits for the same SLC for the same Managed Global Network service for more than 6 months out of any 12 month period.
- Service Credits or equivalent payments made by Verizon to Customer under this SLA are the sole and exclusive remedy available to Customer in respect of any failure to meet an SLC.

5.2 General Exclusions. The following exclusions apply to all obligations of Verizon contained in this SLA:

- 5.2.1 Any act or omission on the part of Customer, its contractors or vendors, or any other entity over which Customer exercises control or has the right to exercise control;
- 5.2.2 Scheduled maintenance on the part of Verizon or its Verizon Affiliates which are within Verizon's maintenance windows, as applicable from time to time;
- 5.2.3 Lapses of Managed Global Network or performance issues related to non-Verizon managed Customer Premises Equipment ("CPE") at a Customer Site
- 5.2.4 Verizon excludes measurement of Trouble Ticket duration any time identified on the Trouble Ticket as "Customer Time" which shall mean any time attributable to or caused by the following:
 - 5.2.4.1 Incorrect or incomplete callout information provided by Customer that prevents Verizon from completing the trouble diagnosis and Managed Global Network Service Restoration
 - 5.2.4.2 Verizon being denied access to network components at the Customer Site when access is required to complete trouble shooting, repair, Restoration, diagnosis or acceptance testing.
 - 5.2.4.3 Customer's failure or refusal to release the Managed Global Network for testing
 - 5.2.4.4 Verizon calls Customer to close Trouble Ticket, but Customer is unavailable or Verizon is unable to verify Managed Global Network Service Restoration with a Customer
- 5.2.6 Network Availability SLC measurements do not include periods of Network Outage resulting in whole or in part from one or more of the following causes:
 - 5.2.6.1 Any act or omission on the part of any third party other than a local access provider; or
 - 5.2.6.2 Periods of Managed Global Network degradation, such as slow data transmission; or
 - 5.2.6.3 Customer inquiry for circuit monitoring purposes only; or
 - 5.2.6.4 Outages on Customer provided Access
 - 5.2.6.5 Interruptions to the Managed Global Network caused by scheduled maintenance.
- 5.2.7 SG RRO Sites with Partner access can only claim Service Credits under the Network Availability and TTR Service Level Commitments.
- 5.2.8 Packet Transit Delay SLC measurements does not cover any of the following:
 - 5.2.8.1 IP packets consisting of more than 64 bytes are not considered in calculating the PTD;
 - 5.2.8.2 The PTD SLC is suspended during periods in which a major Verizon Private IP Core Network component (e.g., backbone link or gateway switch) is not functioning and the Verizon Private IP Core Network is in an emergency re-route configuration;
 - 5.2.8.3 External factors, e.g., access serialization delay and access link congestion, which may cause delay;
 - 5.2.8.4 The PTD SLC is suspended if the customer denies Verizon access to its CPE for the purpose of measuring end-to-end latency.
- 5.2.9 PDR does not include;
 - 5.2.9.1 IP Packets dropped at infrastructure egress due to improper Customer specifications of Customer port speeds;
 - 5.2.9.2 IP Packets which are not delivered due to problems unrelated to Verizon's Private IP Core Network including, but not limited to, local access circuits.
 - 5.2.9.3 Packets dropped at infrastructure egress port due to congestion caused by EF traffic exceeding subscription parameters
- 5.2.10 Jitter does not include:
 - 5.2.10.1 The Jitter SLC is suspended during periods in which a major Verizon Private IP Core Network component (e.g., backbone link or gateway switch) is not functioning and the Verizon Private IP Core Network is in an emergency re-route configuration
 - 5.2.10.2 IP Packets which are not delivered due to problems unrelated to Verizon's Private IP Core Network including, but not limited to, local access circuits.
- 5.2.11 Managed LAN Availability and TTR does not include:
 - 5.2.11.1 Outage periods which are caused by faulty Internal wiring for which Verizon Business is not responsible;
 - 5.2.11.2 Outage periods which are caused by Customer Equipment, Customer Wiring or any other LAN device for which Verizon is not responsible;

6. **Classifications.** Capitalized terms in this SLA will, unless the context otherwise requires or unless such terms are separately defined herein, have the same meanings as are ascribed to them in the Contract.

6.1 **Fault.** A Fault is defined as a material defect, fault or impairment in a Managed Global Network which causes an interruption in provision of that Managed Global Network, or anything that gives rise to a request for assistance or a report, as described in this SLA.

6.1.1 **Classifications of Fault.** The Trouble Ticket priority is related to the severity of the Fault as shown below.

Operational Classification	Criteria
Priority 1 Fault	<ul style="list-style-type: none"> Total loss of Managed Global Network Degraded Managed Global Network (i.e., the Managed Global Network is degraded to the extent where the Customer is unable to use it and is prepared to release it for immediate testing)
Priority 2 Fault	<ul style="list-style-type: none"> Degraded Managed Global Network (i.e., the Managed Global Network is degraded, the Customer is able/still wants to use it and is not prepared to release it for immediate testing)
Priority 3 Fault	<ul style="list-style-type: none"> Non-Managed Global Network Impacting / Telemetry / Back-ups
Priority 4 Fault	<ul style="list-style-type: none"> Non Managed Global Network affecting, e.g., a Customer request for an incident report, and all other queries not covered by Priority Faults 1 – 3 above Scheduled maintenance

The only categories of Fault for which Verizon shall be held accountable to a Customer under this SLA and for which a Service Credit may be payable, are the SLC' s relating to Network Outage, Network TTR, PTD, PDR, Jitter or Proactive Notification as set out in the definition of each SLC above.

6.2 **Network Outage.** A Network Outage is defined as an unscheduled period in which the Managed Global Network is interrupted and unavailable for use by Customer for sixty (60) or more Unavailable Seconds (“UAS”) within a 15 minute period measured by Verizon. UAS is the American National Standards Institute standard (“ANSI”) T1.231.

6.3 **Trouble Ticket.** A Trouble Ticket is the method used by either Customer or Verizon to advise the Verizon Help Desk of a perceived Fault, including a Network Outage or a failure to meet an SLC. A unique trouble ticket reference number will be raised and given to the Customer and should be used each time the Customer calls in to the Help Desk for any Fault update or if appropriate, to inform Verizon of restoration of the Managed Global Network.

APPENDIX A DSL ACCESS SLA MATRIX.

Verizon provided DSL Product eligibility table:

Country	DSL Type Operational Performance Level: Silver and Bronze	Network Availability		Time to Repair
		with Backup	without Backup	Managed Global Network
United Kingdom Italy	SDSL or HDSL	99.5%	97.5%	10 Business Hours

Belgium France Germany Netherlands Spain United Kingdom	ADSL			
Spain	SDSL	99.5%	95.0%	20 Business Hours
Italy	ADSL			
All other countries	SG RRO Site via Partner DSL Access			